

Background Materials
Geological Time and Archaeology

For over 90 percent of the time humans have been on earth as toolmakers they have survived by hunting and fishing, with women gathering wild fruits, nuts and insects. Humans did not learn even the simplest farming techniques until about 12,000 years ago.

How did humanity survive for 200,000 years when animals were faster, stronger, and had better teeth? Humans' advantage was their greater intelligence. They could work together and, from 100-200,000 years ago, talk to one another. Hunters could tell friends where they had found a good place for hunting, and they could even plan ahead to combine their efforts for a big kill. Men could teach their sons their skills, and women could teach their daughters.

Early humans also learned how to make tools of stone (see **Illustration 1A**). That is why the period from 2,000,000 to 10,000 B.C. is called the Old Stone Age.

People living a hunting and gathering life, as they did before 10,000 B.C., had few material possessions or permanent homes. This is because families were mobile. They would move on to a new home according to the availability of and animals in a given area. They did not live year after year in large settled communities.

During the past 100,000 years or so, these Old Stone Age people carefully buried their dead, along with tools and ornaments. This suggests to us that people believed in some sort of afterlife and were religious.

Old Stone Age cave painters were probably the first great artists in history (see **Illustration 1B**). As you can see, most of these beautiful paintings are of animal hunts. The people who did them may have believed these paintings had magical powers and gave the hunter a better chance of success in a real hunt.

Beyond this information, we do not know the life-story of a single Old Stone Age person. People could not yet write to leave us detailed records. And what we do know comes mostly from archaeology. Archaeology is the study of the past through digging up places where people used to live and examining the objects they made.

"Think about the 5,000,000 years that man has been roaming the earth! They represent, according to our current knowledge, the immensity of human evolution. If one were to place into the convenient framework of one whole year the five billion years that represent all the stages on earth, including the formation of the earth, our ancestors of five million years ago would not appear until the thirty-first of December, that is, the last day of our landmark year, and then only at 10:00 A.M. Man would discover fire at about 10:00 P.M. that day, and it would not be until 11:54 P.M. that he would learn to hunt bears! During the last minute of the year, he would develop a marvelous skill in animal painting. At the same moment he would become a shepherd and a farmer."

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Until 50 years ago, archaeologists depended on finding objects made of lasting materials, for example stone buildings, broken pieces of pottery, or fossils. Since then, they have discovered how to identify the shape left behind in the hardened soil of wooden or clay buildings, the fibers of nets, or even footprints, even though the objects or people have long since disappeared.

Soil layers stack up and bury old cultures. Each layer, or stratum, represents a historical period. For example, the City of London has 14 feet of previous habitation, and Jericho's 26 layers can be traced for 10,000 years of settlement.

Scientific methods have been developed for dating the objects found in these layers. Carbon-14, a technique which measures the radioactivity found in organic materials, lets us know how long ago the plant or creature was alive. By measuring the disappearance of radioactivity, we can make this estimation. We can also analyze paintings and pottery for clues into a culture. We can analyze the bones of early humanity's ancestors and the bones of their pets and of animals who lived near them. Even the seeds they left behind can reveal a lot about early humans.

All of these archaeological discoveries have vastly increased our knowledge of early history, but we are always forced to make intelligent and reasoned guesses about these distant periods because we lack written records.

1. Hunter or Farmer?

Humanlike creatures have existed on the earth for millions of years. Fossils of the oldest human ancestors have recently been discovered in Africa. These apelike creatures lived over 4.4 million years ago. Earlier, also in Africa, scientists found the footprints and physical remains of beings that walked upright over 3.5 million years ago. Some 2.5 million years ago, humanlike creatures made the first known stone tools. These people had larger brains than any previously known human ancestors.

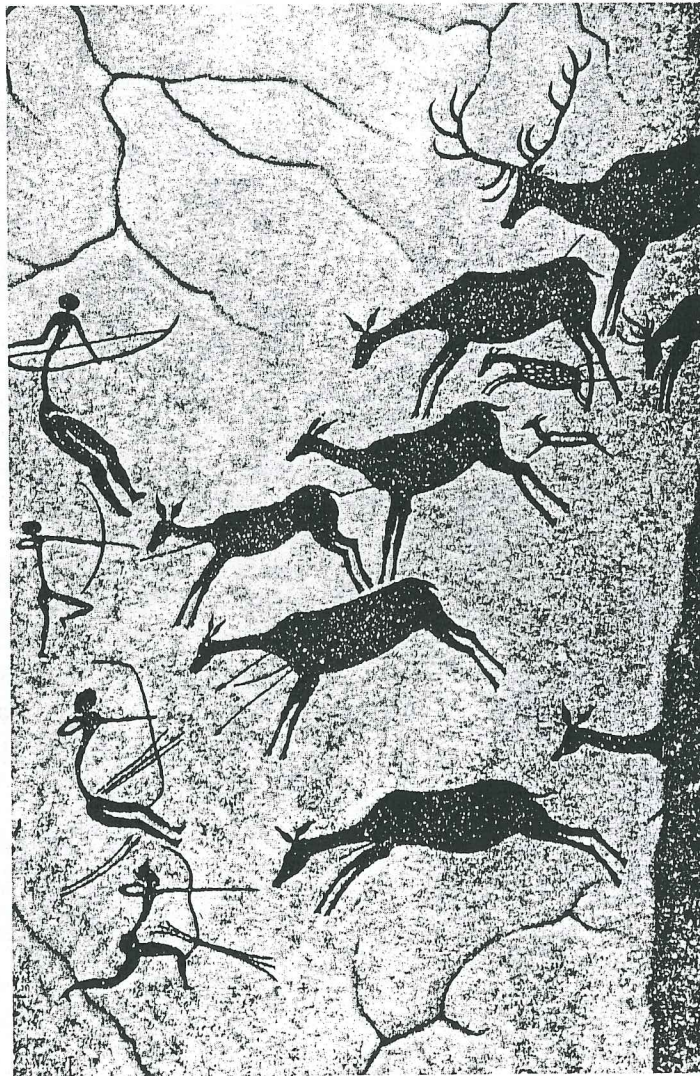
No one knows exactly when modern humans first appeared on the earth. Intelligent beings known as Neanderthals (named for the place in Germany where their remains were first found) appeared about 200,000 years ago. The Neanderthals were short, heavyset, had short arms and legs, and walked with a forward-leaning gait. They made tools of stone and blades of flint. The Neanderthals probably believed in an afterlife, since they buried food and tools with their dead.

Some scientists believe that our first truly human ancestors originated in Africa between 250,000 and 165,000 years ago. (Others dispute the date but not the place.) Some of these human ancestors probably left Africa about 115,000 years ago and began a slow migration across the earth. The best-known of these prehistoric people were the Cro-Magnons, who were named for the place in France where their remains were first found. The Cro-Magnons flourished between 40,000 and 10,000 years ago. They were taller and more slender than the Neanderthals, stood upright, and, most important, had brains better able to make decisions and adapt to change. They made tools from animal horns and bones. They made fishhooks and harpoons for fishing; needles for sewing clothing of leather and animal skins; and knives and bows and arrows for hunting. They left striking examples of their art in caves in France and Spain. Some believe that the more intelligent Cro-Magnons were better able to survive the great Ice Ages than the Neanderthals, who disappeared about 35,000 years ago. During the Ice Ages, the climate was much colder and drier than it is today. Much of northern Europe and North America was buried under great sheets of ice.

About 12,000 years ago, the last of the Ice Ages ended. The world's climate slowly grew warmer, the ice retreated, and the landscape and animals changed. Up to this time, humans had been *nomads*—they had no settled homelands. Instead, people lived in small groups that followed and hunted the huge animals, such as mammoths and bison, living at the time, and they gathered wild grains, fruits, and nuts.

By about 10,000 years ago, many human groups had settled down and were growing their own food. Some of these farmers had also begun to *domesticate* (care for and raise) once-wild animals such as cattle and sheep. These early agricultural groups settled in fertile lands that had good supplies of water. Later in this unit we will tell about the lives of some of the people who settled in the river valleys of the Middle East, Africa, and Asia.

The hunters did not all turn immediately to farming or raising animals. Wild animals were still available, and hunting appealed to many people. The man in our story seems determined to remain a hunter. But his friends have found new ways of caring for themselves and their families. As you read the story, ask yourself what you would do if you were faced with the same circumstances as Ogg the hunter.



Prehistoric hunters in France, c. 5000 B.C., painted scenes of their adventures on the walls of caves.

East Africa 7500 B.C.

My name is Ogg, and I am a hunter. I usually walk a great distance each day to find my food. The animals often fight back, and I have been attacked and bitten many times by deer and goats. Twice I have come close to losing my life to lions.

I continue to hunt for a living, even though many of my friends have given up. They have learned to plant crops and keep animals. They live in houses made of brick, stone, and grass.

One day, while returning from the hunt, I happened to pass the field of my friends Ulana and Lute. Ulana was working in the hot sun. She called out, "Ogg, how tired you look! Your life is so hard and dangerous!"

"I would rather hunt than work in a hot, dusty field," I answered.

"Look how well we live," Ulana replied. "We have a steady supply of meat, milk, vegetables, and wool. In fact, we have everything we need."

"But you are paying a high price for these goods," I answered.

"What price?"

"You are paying with your freedom. You must spend all of your time tending to your crops and animals. You are not free to come and go as you please."

"Your old friends are happy to live this way," she responded. "We are not afraid, nor are we hungry. We all work together and help one another. Some till the soil. Others care for the animals. Still others make weapons and tools. We trade goods with people in other villages. You should give up the hunt and join us, Ogg. You will have a better life."

I answered, "If I settle down and become a farmer, I will have to live according to the rules of the group. On the hunt, the only rules I have to follow are my own. Besides, the hunt is exciting. I even enjoy the danger. No, I will not join with your group."

I left Ulana and continued to hunt for my food. But last week I returned from the hunt empty-handed every day. I was cold,

tired, and hungry. For the first time, I wanted the comfort and security that Ulana and her people had. I decided to go and talk to Lute and Ulana.

Postscript

The people in our first story had bows and arrows for hunting, and knives and tools for farming. They built houses of stone, mud brick, and grasses, and made their clothing from animal skins. But they did not have the two essentials of civilization: a written language and cities. Everything these people knew was told to them by their parents or by other people. All human knowledge was passed along from one generation to the next by this *oral tradition*. It would take thousands of years of living in communities before written languages and cities evolved.

QUESTIONS FOR REVIEW

1. How did the Cro-Magnons differ from the Neanderthals?
2. How did the lives of nomads and farmers differ?
3. Why did Ogg refuse to change his life-style from hunter to farmer?
4. Why did Ulana feel that her way of life was better than Ogg's?
5. Why did Ogg finally decide to talk to Lute and Ulana?

UNDERSTANDING THE STORY

- A. Write T for each statement that is true and F for each statement that is false.
1. No one knows exactly when modern humans first appeared on earth.
 2. The Neanderthals first appeared in France about one million years ago.
 3. The Cro-Magnons left examples of their art in caves in Spain and France.
 4. During the Ice Ages, the climate was much colder and drier than it is today.
 5. About 10,000 years ago, all hunters became farmers.
 6. All of Ogg's friends were hunters.
 7. Ulana encouraged Ogg to become a farmer like Lute and herself.
 8. Ogg often wrote letters to his friends.